

5' TCGAG CCG ATT CGG CTC GAG CGG CTC GAG CTC AGT TAG GAC CCA GAG GGA ACC ATG
11 20 29 38 47 56
M

GAA GCC CCA GCT CAG CTT CTC TTC CTC CTA CTC TGG CTC CCA GAT ACC ACC
65 74 83 92 101 110
T

GGA GAA ATT GTG TTG ACA CAG TCT CCA GCC ACC CTG TCT TTG TCT CCA GGG GAA
119 128 137 146 155 164
E

AGA GCC ACC CTC TCC TGC AGG GCC AGT CAG AGT GTT AGC AGC TAC TTA GCC TGG
173 182 191 200 209 218
W

TAC CAA CAG AAA CCT GGC CAG GCT CCC AGG CTC CTC ATC TAT GAT GCA TCC AAC
227 236 245 254 263 272
N

AGG GCC ACT GGC ATC CCA CCC AGG TTC AGT GGC AGT GGG TCT GGG ACA GAC TTC
281 290 299 308 317 326
F

ACT CTC ACC ATC AGC AGA CTG GAG CCC GAA GAT GTG GCA CTT TAT TAC TGT CAG
335 344 353 362 371 380
Q

FIGURE 1A

389 CAA TAT TTT ACT ACT CCG TAC ACT TTT GGC CAG GGG ACC AGG CTG GAG ATC AAA 434
Q Y F T T Y T F G Q G T R L E I K
443 CGA ACT GTG GCT GCA CCA TCT GTC TTC ATC TTC CCG CCA TCT GAT GAG CAG TTG 488
R T V A A P S V F F I F P P S D E Q L
497 AAA TCT GGA ACT GCC TCT GTT GTG TGC CTG CTG CTG AAT AAC TTC TAT CCC AGA GAG 542
K S G T A S S V V C L L L N N F Y P R E
551 GCC AAA GTA CAG TGG AAG GTG GAT AAC GGC CTC CAA TCG GGT AAC TCC CAG GAG 596
A K V Q W K A N A L Q S G N S Q E
605 AGT GTC ACA GAG CAG GAC AGC AAG GAC AGC ACC ACC TAC AGC CTC AGC ACC CTG 650
S V T E Q D S K D S S T Y Y S L S S T L
659 ACG CTG AGC AAA GCA GAC TAC GAG AAA CAC AAA GTC TAC GCC TGC GAA GTC ACC 704
T L S K A D Y E K H K V V Y A C E V T
713 CAT CAG GGC CTG AGC TCG CCC GTC ACA AAG AGC TTC AAC AGG GGA GAG TGT TAG 758
H Q G L S S P V V T K S F F N R G E C

FIGURE 1B

767	AGG GAG AAG TGC CCC CAC CTG CTC CTC AGT TCC AGC CTG ACC CCC TCC CAT CCT	812
821	TTG GCC TCT GAC CCT TTT TCC ACA GGG GAC CTA CCC CTA TTG CGG TCC TCC AGC	866
875	TCA TCT TTC ACC TCA CCC CCC TCC TCC TCC TTG GCT TTA ATT ATG CTA ATG TTG	920
929	GAG GAG AAT GAA TAA ATA AAG TGA ATC TTT GCA AAA AAA AAA 3'	

FIGURE 1C

5' CGGG GCT AGC CCG GAG ACC CGG CCA CCG GCC TGG GGC GCC TTC ACG CCG TCT CGG	10	19	28	37	46	55
AGC GGA TAA TGC GGT GAG CAG GCA CCA CGC CGG CAG ACT CGG CTG GAT CTG CGC	64	73	82	91	100	109
ACA GCG GCA GGG ATT GCG TGC GCC GCG GGG AGG CCC GCG GCA GCG GCT GGG ATC	118	127	136	145	154	163
CTC AGC GGC GGC CGG TTT GTC CTG GTT GTG GTC AAG ACT GGA TGA TGT AAC TGG	172	181	190	199	208	217
CTC TCT AGG AAG CCT CAC TTG GCC GTA ACC TCA GGA AGG TTC TCT TTG ACC CCA	226	235	244	253	262	271
TCT CAT TTC GAA GCC ACT TCT GAA GCC ACT TGA GAA AAA TGA TGT GAC AGT TCC	280	289	298	307	316	325
TAT CAA AAA GGA TTC AGA AAC ATA TAC CAT CTG TGA AGA AAG TGG CCC TTT CTC	334	343	352	361	370	379
CCG CTT GCA AAA TAG ACA TTC TCA AAT TCC AAA ATG CCA GCC AAG ACC CCA ATT	388	397	406	415	424	433
				M	A	P
				P	K	T
						I

FIGURE 2A

442 451 460 469 478 487
TAC CTG AAA GCA GCC AAT AAC AAG AAA GGA AAG AAA TTT AAA CTG AGG GAC ATT
Y L K A A N N K K K G G K K F K L R D I

496 505 514 523 532 541
CTG TCT CCT GAT ATG ATC AGT CCC CCG CTT GGA GAC TTT CGC CAC ACC ATC CAC
L S P D M I S P P P L L G D F R H T I H

550 559 568 577 586 595
ATT GGC AAA GAG GGC CAG CAG CAC GAT GTC TTT GGA GAT ATT TCC TTT CTT CAA GGG
I G K E G Q Q H D V F F G D I S F L Q G

604 613 622 631 640 649
AAC TAC GAG CTT TTA CCT GGA AAC CAG GAG AAA GCA CAC CAC CTG GGC CAG TTC CCT
N Y E L L P P G N Q Q E K A H L G G Q F P

658 667 676 685 694 703
GGG CAT AAT GAG TTC TTC CGG GCC AAC AAC AGC ACC TCG TCG GAC TCT GTG TTC ACA GAA
G H N E F F R A N N S T S S D S V F T E

712 721 730 739 748 757
ACG CCC TCC CCG GTG CTC AAA AAT GCC ATC TCC CTC CCG ACC ATT GGA GGA TCC
T P S P V L L K N A A I S L L P P T I G G S

766 775 784 793 802 811
CAA GCT CTC ATG TTG CCC TTA TTG TCA CCA GTG ACA TTT AAT TCC AAA CAG GAG
Q A L M L P L L S S P V T F N S K Q E

FIGURE 2B

820	TCC TTC GGG CCA GCA AAG CTG CCC AGG CTT AGC TGC GAG CCC GTC ATG GAG GAA	847	856	865
S F	P A K	L S C	E P V	M E E
874	AAA GCT CAG GAG AAA AGC AGT CTG TTG GAG AAT GGC ACA GTC CAC GGA GAC	901	910	919
K A Q	E K S	L L L	T V H	Q G D
928	ACC TCG TGG GGC TCC AGC GGT TCT GCA TCT CAG TCC AGC CAA GGC AGA GAC AGC	946	955	973
T S W	G S S	A S Q	S S Q	R D S
982	CAC TCC TCC AGC CTG TCC GAA CAG TAC CCC GAC TGG CCA GCC GAG GAC ATG TTT	1000	1009	1027
H S S	S L S	Q Y P	D W A	E D M F
1036	GAC CAT CCC ACC CCA TGC GAG CTC ATC AAG GGA AAG ACT AAG TCA GAG GAG TCC	1054	1063	1081
D H P	T P C	L I K	G K T	E E S
1090	CTC TCT GAC CTT ACA GGT TCC CTC CTC TCC CTC CAG CTT GAT CTT GGG CCC TCA	1108	1117	1135
L S D	L T G	L L S	L Q L	G P S
1144	CTT TTG GAT GAG GTG CTG AAT GTA ATG GAT AAA AAT AAG TAA CAA GAT GCC AAC	1162	1171	1189
L L D	E V L	N V M	D K N	K

FIGURE 2C

1198 TTT CCT TTG GGG TAA AAG GTA CAA AAA CAA ACT AAC CAC AGT TGA AGA GAA 1243
1252 GGG CTT CCG GAG CTG TAT TTG CAG TTT TGT GTT GGG TTT TCT AAA ATA ATA TTC 1297
1306 TTA CAA AGT ATT ATT TTA CCT GTT ATG CCC TGT TTG CAA AAA CAA TTT AGA AAA 1351
1360 AAA CAA CAA AGC AAA ACC TAT CTT GGC AAA AAA AGG AAG TGA GTC AGA GCC CAT 1405
1414 TTT CAG GAG GCA TTG GTG ATG TTC GGC TCA CAT ATT GTT TGC AGA CAC ACA AGA 1459
1468 AAT CTG GCT TGG CCA GGA TTG GCA CTA GCT ATG AAG GGC TGA GCG AGT CAC ATT 1513
1522 AAG GAA CTT CAC GGA ACT TTA TAG CAC TCC GAC ATT TTC TGA GCA AGA GGA AGT 1567
1576 CAA AAT TTA TTT AAC ACC TAA GCC TTT TTG TAG ACT CTT TTC TAT ATA TTG CTT 1621
1630 AGG CTC ACC ATA GCG AAT TCT CCA GTG TTA AAA CTT TTC TGT TTT CAC ATT TGA 1675

FIGURE 2D

1684	1693	1702	1711	1720	1729
ACT TTA TGG GTT TTG GGG ATT TTC TTG TAG TTC TTA TAT ATC CCT ATA TAT TAT					
1738	1747	1756	1765	1774	1783
ATC TAT ATT GCA AAA TTT TGA CTG TCA GCT ACA TGT TGG TAA GAC ACA GGC AAA					
1792	1801	1810	1819	1828	1837
GTA TTA CTG TAA CTA AGT TAT TTT TAA AGT TAA AAT ATA TTT TTA CGT GCC TTT					
1846	1855	1864	1873	1882	1891
GGC TTT TTA TTG CAG AGT CTA CAT TTT ATA GAT TCT ACA TCA GAT GTT GTC ACT					
1900	1909	1918	1927	1936	1945
TAT TTC CAT TGG GAT FCC ATT GTA AGC TGT GTA TGT GCG TGT TTG GAA AAG TGT					
1954	1963	1972	1981	1990	1999
ATT CAT ACT TAG TTT TTT TTT CTT CAT CTG TTA TCA TAC TTT TAA CAG CAA CCA					
2008	2017	2026	2035	2044	2053
ATA ACG GAT TGT AAA GTG TAA AGG CAC AGG TTA CTC ATG ATG CTT CTG CAG AGA					
2062	2071	2080	2089	2098	2107
CTG TGG GCT ACA CCA CAT ATG TTA TTT GGA AAT ATA GGT ATT TTA GTA CAG TAC					
2116	2125	2134	2143	2152	2161
ATA CTT GCA TTA CAT AGG TAC TTC AAG CAA CAC AAT AAA AAG TAA ATG ATA AAG					

FIGURE 2E

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2170 TGA ACT TGC TTG TTT ATA GTA ATA AAC AAG ACC ATA AGA GAA TAA GTA TAG CTA 2215
2224 GAG AAA TTG CTT CTC TGA AAT GTA CAT GAG CCC TTA AGG TAA GAG ATG ATT TCC 2269
2278 ATC TAC TCT CAT TTT GAT TAC TTC CTT ATG GTT TGA GAG GCT AGA AAC TGA GCC 2323
2332 TCT CTA CTT TTG GAA AAA TGA ACA TGT GAG GTC AGA TTT TTT TTT TTT TTA 2377
2386 AGT CAG CAC TGA TGC CAC CCT CTC AGT GGT CAT TTC TGA GCA TCT TCC TGA CTT 2431
2440 GAA CAC CTT CTA CAG CAA ACT CTT GCA AGT CCA GTT TCA TCC CTG TAA GGC AAA 2485
2494 TGT CTT TTC ACG CAG AAA GTG CCA TAT AGA CGA GAT AAA GGC AGC TAN AAC GAG 2539
GGC AGT A 3'

FIGURE 2F

1 MP AK - - - - - T P I Y L - K A A N N K K K K F K L R 1859631
1 MP GP Q G G R G A A T M S L G K L S P V G W V S S S Q G K GI 338033

24 D I L S P D M I S P P L G D F R H T I H I G K E G Q H D V F 1859631
31 R R L T A D M I S H P L G D F R H T M H V G R G G - - D V F GI 338033

54 G D I S F L Q G N Y E L L P G N Q E K A H L G Q F P G H N E 1859631
59 G D T S F L - S N H G G S S G S T H R S P R S F L A K K L Q GI 338033

84 F F R A N S T S D S V F T E T P S P V L K N A I S L P T I G 1859631
88 L V R R V G A P P R R M A S P P A P S P A P A I S P I I - GI 338033

114 G S Q A L M L P L L S P V T F N S K Q E S F G P A K L P R L 1859631
117 - K N A I S L P Q L N Q A A Y - - - D S L V V G K L S - F GI 338033

FIGURE 3A

144	S	C	E	P	V	M	E	K	A	Q	E	K	S	S	L	L	E	N	G	T	V	H	Q	G	D	T	S	W	G	1859631	
141	D	S	S	P	T	S	T	D	G	H	S	S	Y	G	L	-	D	S	G	F	C	T	I	S	R	L	P	R	-	GI 338033	
174	S	S	G	S	A	S	Q	S	S	Q	G	R	D	S	H	S	S	S	L	S	E	Q	Y	P	D	W	P	A	E	D	1859631
169	-	-	-	-	-	S	E	K	P	H	D	R	D	R	D	G	S	-	-	-	-	-	F	P	S	E	P	-	-	-	GI 338033
204	M	F	D	H	P	T	P	C	E	L	I	K	G	K	T	K	S	E	E	S	L	S	D	L	T	G	S	L	L	S	1859631
186	-	-	-	-	-	-	-	-	-	-	-	G	L	R	R	S	D	S	L	L	S	-	-	-	-	-	-	-	-	-	GI 338033
234	L	Q	L	D	L	G	P	S	L	L	D	E	V	L	N	V	M	D	K	N	K										
198	L	D	L	D	L	G	P	S	L	L	S	E	L	L	G	V	M	S	L	P	E									1859631 GI 338033	

FIGURE 3B